

Aero Design Ltd.**Work Order Control Sheet**Work Order#: **2017-03** Date Opened: **05 Jan 2017** Title: **Fabrication**Aircraft OEM: **Eurocopter** Aircraft Model: **AS350/355** Product Type: **Cargo Basket Body** Product Model: **Medium Hoops** Quantity: **50****Work Order Contents**

Work Order/Build Sheets (Procedures Provided)
Additional Work Sheets (Standard Practice)
Drawings (See List Below)
Parts Distribution Sheet
Sub Component Tags
Completed Certification (Original)
Time Sheet (R&D)
Notes

Initial or N/A

DB
N/A
DB
DB
N/A
N/A
N/A
N/A

Build Sheet Contents

Tasks Initialled
Dual Inspections Initialled

JC
JC

Drawing List

Drawing #	Rev #	Description	Initial or N/A
76421	1	Regular Hoop	DB
76422	3	Fwd Mount Hoop	DB
84262	2	Handle Provisions	DB

Traveller

Work performed by:
ICC / Dual Inspection performed by:
Work Order closed by:

Print: D. Bartfai
Print: J. Clarke
Print: J. Clarke

Sign: [Signature]
Sign: [Signature]
Sign: [Signature]

Form 20.D.03

Component Completion

Quantity Complete on This Work Order
Quantity Incomplete on This Work Order
Further Processing Required Before Release
Release to Stock as Components

As Instructed

36/5/5*
N/A
N/A
N/A

Certification

Form One Completed
Serviceable (Green) Tag Completed
In Process (Yellow) Tag Completed
Unserviceable (Red) Tag Completed
Parts Tracking Tags (White) Completed
Parts Placed in Stores for Distribution

Initial or N/A

N/A
N/A
JC
N/A
N/A
N/A

Additional Documentation

Documentation of a minor change
Non-Conformance Report Required
Service Difficulty Report Required

Initial or N/A

N/A
N/A
N/A

Billing

Local (Aero Design)
Research and Development
Third Party

JR
N/A
N/A

Notes:

46 x 76421-01 Hoop - Standard
5 x 76421-01 Hoop - Standard with 84262-01 Handle Provisions
5x 76422-01 Hoop - Forward Attachment
Handle provision and forward attachment hoops
made from standard hoops as stock
4x scrapped due to incorrect bends during setup

Approved Manufacturing Facility 73-04

Rev. Original 23 Sep 2014

2017-03

~~2016-165~~ DB

L/H AS350 Med.

CARGO BASKET HOOP FABRICATION - 76421

General

These instructions apply to cargo basket hoop 76421-01 and derivatives that use it as stock. Refer to the following drawings, at the current revision, for dimensions and details:

76421, Revision 0 – Hoop

Notes

1. Always bend 1 hoop start to finish to ensure stops and stock length are correct.
2. Always pull with consistent speed through the bend, do not stop during the pull, and do not over-pull once the stop is reached.

Work Order:

~~2016-165~~ 2017-03

X46

Date Open:

~~Dec 2016~~ 05 JAN 2017

Complete
(initial or SCA #)

PD
73-04
01

1. Hoop Fabrication

- a. Cut $\frac{1}{2}$ " x 0.035 material to 48.0"?, one end square, one end @ 16 degrees.
- b. Record material PO on attached material list.
- c. De-burr cut ends using a sanding disc on a die-grinder or disc sander.
- d. Remove writing on tubes with acetone and scotch bright.
- e. On the hoop bending fixture, set the following stops:
 - i. Upper tube stop: ??
 - ii. Lower bend stop: ??
- f. Slide stock tube through bending die up to upper stop, angled end of tube, long side away. Rotate bending arm clockwise until tube is secure, ready to bend. Ensure tube remains tight to upper stop.
- g. Slide shim all the way forward on bender to secure tube in die.
- h. Pull bending arm clockwise until stop is reached. Pull slowly with consistent pressure.
- i. Check tube bend for angle and height using hoop jig. Adjust stops if required.
- j. On the hoop bending fixture, set the following stops:
 - i. Upper tube stop: ??
 - ii. Lower bend stop: 12mm
- k. Slide stock tube through bending die up to upper stop, square end of tube. Rotate bending arm clockwise until tube is secure, ready to bend. Ensure tube remains tight to upper stop.
- l. Slide shim all the way forward on bender to secure tube in die.
- m. Pull bending arm clockwise until stop is reached. Pull slowly with consistent pressure.
- n. Check tube bend for square and height using hoop jig or carpenters square. Adjust stops if required.
- o. Check for:
 - i. hoop height: 17 $\frac{1}{8}$ " (Outside to outside)
 - ii. hoop width at top: 21" (inside to inside)
 - iii. adjust upper stop for height if required
 - iv. adjust stock length for width if required
 - v. twist – due to pulling bending arm up or down through bend

CARGO BASKET HOOP FABRICATION - 76421

- p. Drill #30 vent holes in bottom centre of hoop in fore/aft direction. De-burr with scotch-brite disc on die-grinder.
- q. Inspect hoops for conformity to drawing.
- r. Tag complete and inspected hoop(s) and place into stock.



Aero Design Ltd.

AMF 73-04

9888 A Malaspina Rd.

Powell River, BC

Canada

V8A 0G3

Complete Fabrication Instructions

This sheet is designed to assist in the fabrication of Aero Design products in accordance with the company Manufacturing Policy Manual, the Canadian Aviation Regulations and other applicable technical documentation.

The reference column of the following table is for reference unless a specific instruction is called out.

The initial columns serve one column per component fabricated on the applicable work order.

Nomenclature: AS350 Quick Release Cargo Basket Hoop Work Order #: 2016-165 JK 2017-03
Number of Units: 46

Model	Requirements	Reference	Initial				
AS350	Review LOEP to ensure most current technical specifications	N/A	DB	DB	DB	DB	DB
AS350	Cut a piece of material to 48 3/16"	N/A	DB	DB	DB	DB	DB
AS350	Cut one end at 90 degrees and the opposite end at 16 degrees.	N/A	DB	DB	DB	DB	DB
AS350	At the 90 degree end measure 12.5 and mark. Bend at that mark, set stop at 103 deg.	N/A	DB	DB	DB	DB	DB
AS350	At the longest point of the 16 degree end measure 14 1/4" and mark. Bend at that mark, set stop at 85 deg.	N/A	DB	DB	DB	DB	DB

Post Fabrication Inspection

Inspect components to ensure conformity to the applicable design data.

Signature: _____

Licence Number or SCA: _____

Date: _____

CARGO BASKET HOOP FABRICATION - 76422

General

These instructions apply to cargo basket forward attachment hoop 76422-01. Refer to the following drawings, at the current revision, for dimensions and details:

76421, Revision 0 – Hoop

76422, Revision 0 – Attachment Hoop

Work Order: 2017-03

QTY 5

Date Open: 15 Jan 2017

Complete
(initial or SCA #)

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1. Machining

- Start with 76421-01 hoop as stock.
- Setup manual milling machine with standard steel vise jaw, with a backup bar to prevent the hoop from deflecting while cutting. Set XY 0 on far, right edge of hoop (end of hoop). Shift X along hoop 0.75" and set X 0.
- Using 5/8" (0.625) end mill, mill into side of tube in accordance with drawing. Apply a few drops of Rapid-Tap cutting oil to each location before milling.
- Wipe or blow off cutting oil and de-burr with scotch-brite disc on die-grinder.
- Tag in process hoop(s) and place into stock.

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2. Welding

- Attach two 69823-02 lugs to 11" spacing jig using 3/8-24 bolt. Align lugs to slots in hoop prepared in step 1. above. Centre bolts on hoop.
- TIG weld lugs into hoop. Weld all around both lugs.
- Record lug and welding rod PO/WO on attached material list.
- Tag in process hoop(s) and place into stock.

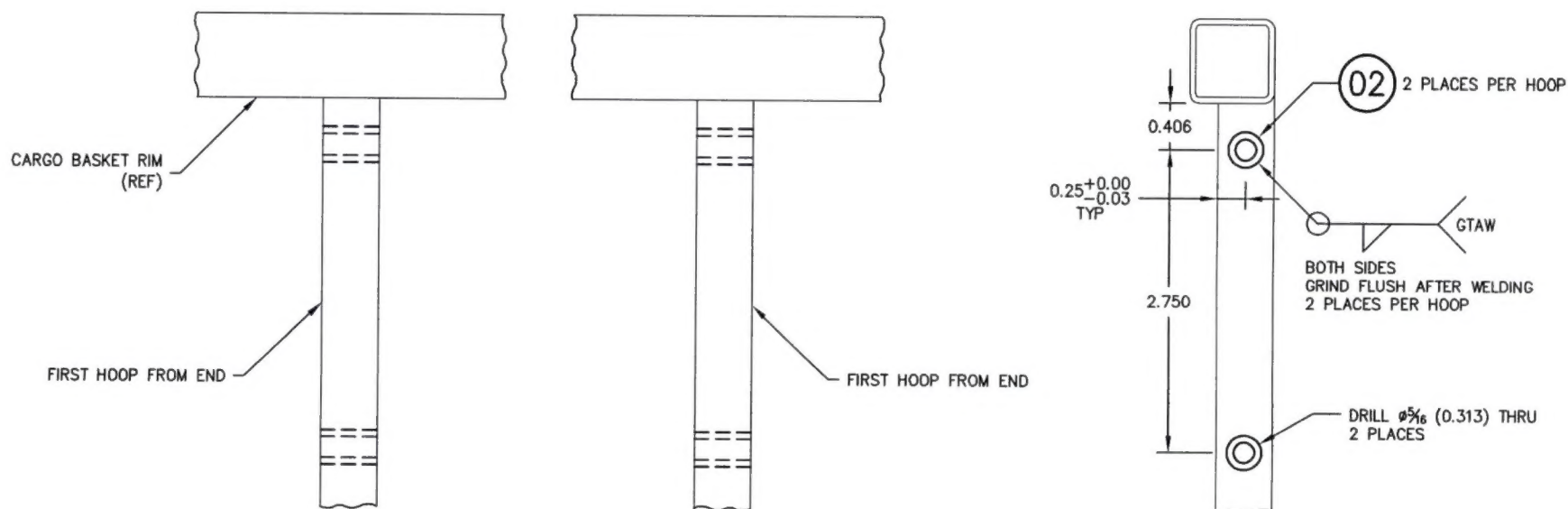
AD
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3. Finishing and Inspection

- Run 3/8-24 tap through welded lugs.
- Inspect hoop for conformity to drawing.
- Tag complete and inspected hoop(s) and place into stock.

2017-03

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REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE -- CREATED FROM 36262	BJC	03/11/2009
1	CHANGE LOCATION OF BUSHINGS	BJC	29/09/2011
2	UPDATED TITLE BLOCK, MOVE LID PROVISIONS TO 84263	BJC	14/02/2014



① BASKET HANDLE PROVISIONS ASSEMBLY PROVISIONS TO BE INSTALLED IN HOOPS BEFORE ASSEMBLY TO BASKET RIM

NOTES:

1. REMOVE ALL BURRS AND SHARP EDGES.
2. WELDING TO BE COMPLETED BY GTAW METHOD TO AMS2685C USING ROD CONFORMING TO ER70S-2 OR EQUIVALENT.

4	84272-01	02	BUSHING
	84262-01	01	BASKET HANDLE PROV. ASSY
01	PART NO.	ITEM	DESCRIPTION
QTY	LIST OF MATERIALS		

APPROVALS	DATE
DRAWN: JEFF CLARKE	03 NOV 2009
CHECKED: E. BURGAIN	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON: DECIMALS ANGLES X.XXX ±0.010 ±1/2° X.XX ±0.03 X.X ±0.1	



AERO DESIGN LTD.

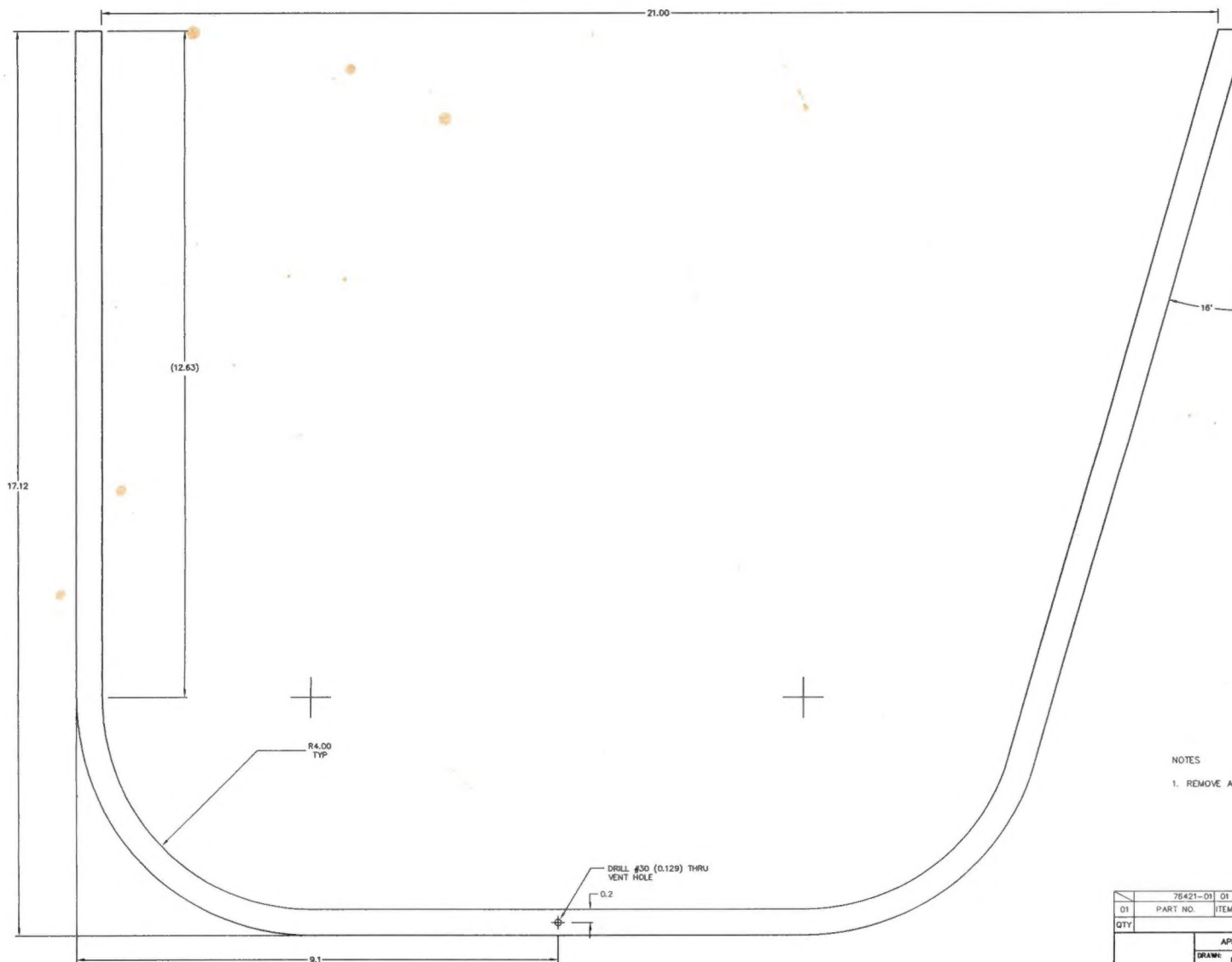
9888A MALASPINA ROAD
POWELL RIVER, BC, CANADA, V8A 0G3
TEL: 804-483-6376 www.aerodesign.ca

HELICOPTER CARGO BASKET
BASKET HANDLE PROVISIONS ASSEMBLY

SCALE 1 : 1	DWG. SIZE	DWG. NO.	REV.
SHEET 1 OF 1	A3	84262	2

2017-03
2016-16500


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REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		
1	TITLE BLOCK UPDATED; NOTE 2 REMOVED; ADD VENT HOLE	BJC	11/07/2014



NOTES

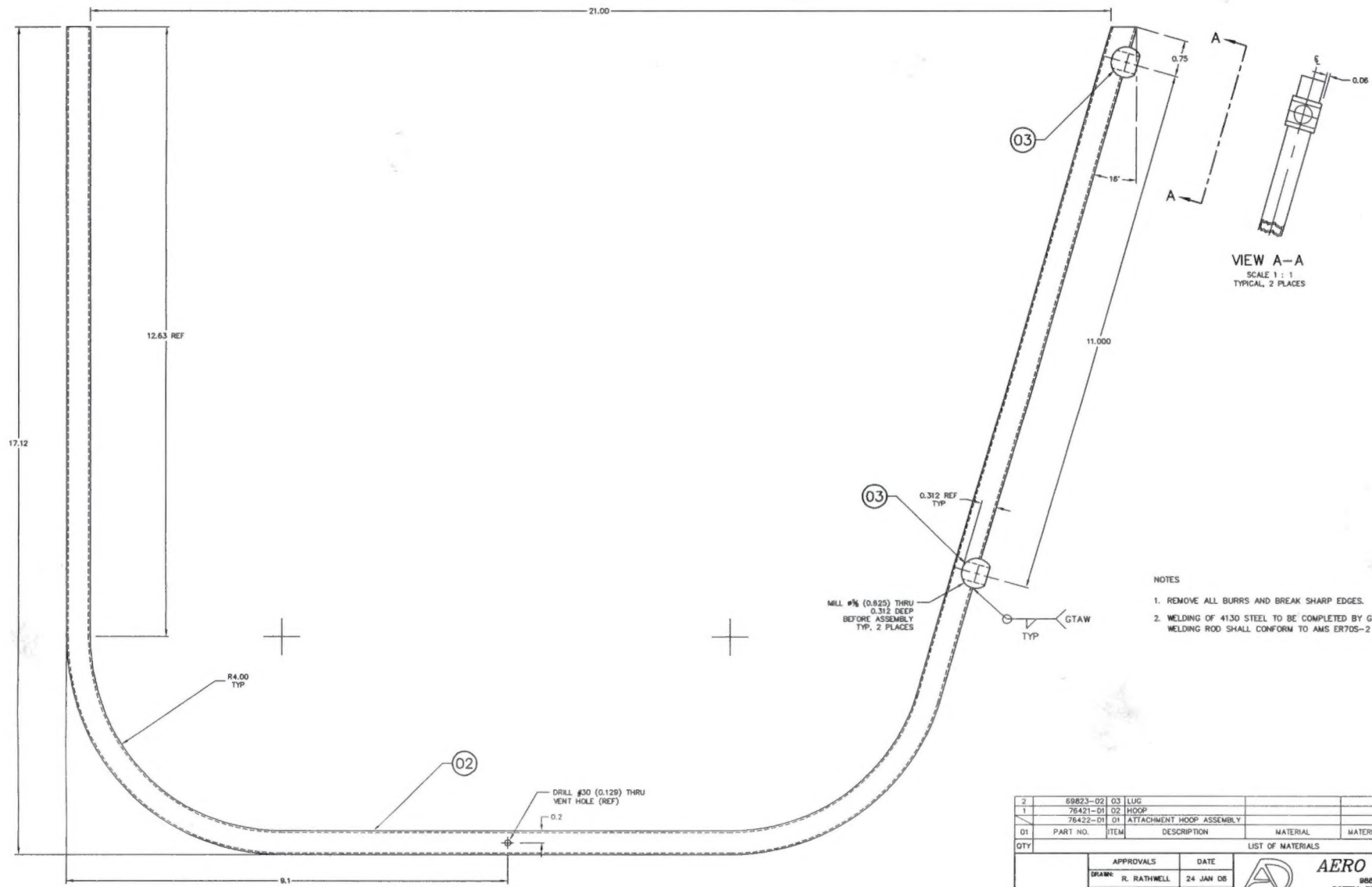
1. REMOVE ALL BURRS AND BREAK SHARP EDGES.

01 HOOP
SCALE 1 : 1

76421-01 01 HOOP			4130 STEEL COND. N	MIL-T-6736	0.5 X 0.035 SQ. TUBE	
01	PART NO.	ITEM	DESCRIPTION	MATERIAL	MATERIAL SPEC	STOCK SIZE
QTY						
LIST OF MATERIALS						
APPROVALS			DATE		 AERO DESIGN LTD. 8066A MALASPINA ROAD POWELL RIVER, BC, CANADA V8A 0G3 TEL: 804.483.2878 www.aerodesign.ca	
DRAWN: R. RATHWELL			24 JAN 08			
CHECKED: E. BURGOIN						
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON:				EUROCOPTER AS350 & AS355 SERIES QUICK RELEASE CARGO BASKET HOOP		
DECIMALS		ANGLES		SCALE 1 : 1		
X.XXX ±0.010		±1/2°		DWG. SIZE		
X.XX ±0.03				DWG. NO.		
X.X ±0.1				REV		
SHEET 1 OF 1				A1 76421 1		

2017-03
~~2016-165 DB~~


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REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		
1	TITLE BLOCK UPDATED; VENT HOLE ADDED; NOTE 2 REMOVED; 3 MOVED TO 2	BJC	11/07/2014



NOTES

1. REMOVE ALL BURRS AND BREAK SHARP EDGES.
2. WELDING OF 4130 STEEL TO BE COMPLETED BY GTAW METHOD TO AMS2685C. WELDING ROD SHALL CONFORM TO AMS E70S-2 OR EQUIVALENT.

(01) ATTACHMENT HOOP ASSEMBLY
 SCALE 1 : 1

2	69823-02	03	LUG				
1	76421-01	02	HOOP				
	76422-01	01	ATTACHMENT HOOP ASSEMBLY				
Q1	PART NO.	ITEM	DESCRIPTION	MATERIAL	MATERIAL SPEC	STOCK SIZE	
QTY							
LIST OF MATERIALS							
APPROVALS				DATE			
DRAWN: R. RATHWELL				24 JAN 08			
CHECKED: E. BURDON							
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON:				AERO DESIGN LTD. 8880A MALASPINA ROAD POWELL RIVER, BC, CANADA, V0A 0G3 TEL: 804.483.2576 www.aerodesign.ca			
DECIMALS				ANGLES			
X.XXX ±0.010				±1/2°			
X.XX ±0.03							
X.X ±0.1							
EUROCOPTER AS350 &AS355 SERIES QUICK RELEASE CARGO BASKET ATTACHMENT HOOP ASSEMBLY							
SCALE 1 : 1				DWG. NO.			
SHEET 1 OF 1				REV			
A1				76422			
				1			

CARGO BASKET HOOP FABRICATION - 84262

General

These instructions apply to all cargo basket hoops that require handle bracket provisions. Refer to the following drawings, at the current revision, for dimensions and details:

Handle Provisions – Common to all baskets
84262, Revision 1 – Handle Bracket Assembly

Work Order: 2017-03

QTY 5

Date Open: 05 JAN 2017

Complete
(initial or SCA #)

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01

1. Handle Bushings – Preparation – 84262-01

Required in locations where handle brackets will be installed.

- a. Start with stock hoop or half hoop as required for specific basket assembly.
- b. Setup manual milling machine with specific hoop vise jaw. Set XY 0 on far, right edge of jaw (end of hoop).
- c. Drill 2 places, 5/16" (0.313) holes using 5/16 (#4) centre drill through both sides in accordance with drawing. Apply a few drops of Rapid-Tap cutting oil to each location before drilling.
 - i. locate 0.23" from edge (within tolerance specified on drawing).
- d. Wipe or blow off cutting oil and de-burr with scotch-brite disc on die-grinder.
- e. Tag in process hoop(s) and place into stock.

AD
73-04
05

2. Handle Bushings – Welding – 84262-01

- a. Insert 84271-01 bushings into hoop prepared in step 2. above.
- b. TIG weld bushing both sides, 2 bushings per hoop.
- c. Record bushing and welding rod PO/WO on attached material list.
- d. Tag in process hoop(s) and place into stock.

AD
73-04
07

3. Handle Bushings – Finish – 84262-01

- a. De-burr welded bushings.
- b. Inspect hoop for conformity to drawing.
- c. Tag complete and inspected hoop(s) and place into stock.

Work Order:

2017-03
~~2016-165-DB~~Material Tracking Sheet
Eurocopter AS350 / AS355
Hoop Fabrication

1 of 2

Date Opened:

~~Dec 2016~~
05 JAN 2017

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	POWO
Step 1	46 (36)		76421-01	Hoop - standard	4130 Steel, 1/2" x 0.035 Sqr. Tube	15072
Step 1	5		76421-01	Hoop - with handle provisions	4130 Steel, 1/2" x 0.035 Sqr. Tube	15072 (above)
Step 2				Welding		
	. 2	84262	84272-01	Bushing	4130 Steel, 5/16" x 0.058 Rnd. Tube	2016-134
	. A/R		--	Welding Rod	ER70S-2	14005
Step 3				Inspection	None	
	5		76422-01	Hoop - attachment (forward)		
Step 1				Fabrication		
	. 1		76421-01	1/2" Tube - hoop	4130 Steel, 1/2" x 0.035 Sqr. Tube	15072 (above)
Step 2				Welding		
	. 2		69823-02	Lug	1018 Steel, 5/8" Rod	2015-67
	. A/R		--	Welding Rod	ER70S-2	14005
Step 3				Finishing and Inspection	None	

Work Order:

2017-03
2016-165 JCMaterial Tracking Sheet
Eurocopter AS350 / AS355
Hoop Fabrication

2 of 2

Date Opened:

Dec 2016 JC 05 JAN 2017

Activity Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
			76423-01	Hoop - attachment (aft)		
Step 1		N/A				
		not made on this WO JC		1/2 Hoop Fabrication - 1/2" hoop		
	. 1		--	1/2" Tube - hoop	4130 Steel, 1/2" x 0.035 Sqr. Tube	15072 DB
Step 2				Machining	None	
Step 3				1/2 Hoop Fabrication - 1" hoop		
	. 1		--	1" tube - hoop	4130 Steel, 1" x 0.065 Sqr. Tube	
Step 4				Machining	None	
Step 5				Joint Preparation	None	
				Welding		
Step 6	. 2		76423-05	Stud	1018 Mild Steel, 5/8" Dia.	
Step 7	. 2	84262	84272-01	Bushing	4130 Steel, 5/16" x 0.058 Rnd. Tube	
Step 8	. 1		76423-04	Cap	1018 Mild Steel, 0.050" Sheet	
	. A/R		--	Welding Rod	ER70S-2	14005 JC
Step 9				Finishing and Inspection	None	